## Claims

1. A *Thraustochytrium* strain which has an ability of producing docosahexaenoic acid.

2. A LFF1 strain of *Thraustochytrium* (accession number: FERM BP-08568 (transferred from FERM P-19159)), a strain of the same genus as the LFF1 strain, or a strain having fungological properties substantially identical to those of the LFF1 strain.

3. A method for producing docosahexaenoic acid-containing fat and oil, which comprises culturing the *Thraustochytrium* strain having an ability of producing docosahexaenoic acid in a medium, and collecting the docosahexaenoic acid-containing fat and oil from the culture product.

4. The method for producing docosahexaenoic acid-containing fat and oil according to claim 3, wherein the *Thraustochytrium* strain having an ability of producing docosahexaenoic acid is the LFF1 strain of *Thraustochytrium* (accession number: FERM BP-08568 (transferred from FERM P-19159)), a strain of the same genus as the LFF1 strain, or a strain having fungological properties substantially identical to those of the LFF1 strain.

5. The method for producing docosahexaenoic acid-containing fat and oil according to claim 3, wherein pH at culturing is 8.0 to 9.0.

6. The method for producing docosahexaenoic acid-containing fat and oil according to claim 3, wherein the amount of strain to be inoculated at culturing is 80g or more per liter of culture medium.

7. The method for producing docosahexaenoic acid-containing fat and oil according to claim 6, wherein the amount of strain to be inoculated at culturing is 100g or more per liter of culture medium.

8. The method for producing docosahexaenoic acid-containing fat and oil according to claim 3, wherein the strain is cultured in a medium having a carbon source concentration of 4% to 7%, and then is subsequently cultured in a medium having a carbon source concentration of 13% to 20%.

9. Docosahexaenoic acid-containing fat and oil which contains 10% by weight or less of docosapentaenoic acid and 30% by weight or more of docosahexaenoic acid, based on the total amount of fatty acid in the fat and oil

10. The docosahexaenoic acid-containing fat and oil according to claim 9 which contains 50% by weight or more of docosahexaenoic acid, based on the total amount of fatty acid in the fat and oil.

11. The docosahexaenoic acid-containing fat and oil according to claim 9 which is obtained by culturing the *Thraustochytrium* strain having an ability of producing docosahexaenoic acid in a medium and collecting docosahexaenoic acid-containing fat and oil from the culture product.

12. The docosahexaenoic acid-containing fat and oil according to claim 9 which is obtained by culturing the LFF1 strain of *Thraustochytrium* (accession number: FERM BP-08568 (transferred from FERM P-19159)), a strain of the same genus as the LFF1 strain, or a strain having fungological properties substantially identical to those of the LFF1 strain in a medium and collecting docosahexaenoic acid-containing fat and oil from the culture product.

13. The docosahexaenoic acid-containing fat and oil according to claim 9 which is obtained by purifying fat and oil which is collected from the cultured product of a strain.

14. The docosahexaenoic acid-containing fat and oil according to claim 9 wherein the fat and oil is contained in: a culture solution during the production of fat and oil by culturing of strain or a sterilized culture solution thereof; a culture solution after the completion of culture or a sterilized culture solution thereof; cultured strains collected from any of the above culture solutions or a dehydrated product thereof; or a residue after the fat and oil is collected from any of the above culture solutions or strains.

15. A method for producing docosahexaenoic acid, which comprises isolating docosahexaenoic acid from the docosahexaenoic acid-containing fat and oil which is obtained by the production method according to claim 3 or the docosahexaenoic acid-containing fat and oil according to claim 9.

16. The method for producing docosahexaenoic acid according to claim 15 wherein the docosahexaenoic acid is isolated, after the docosahexaenoic acid-containing fat and oil is treated with lipase.

17. A method for producing behenic acid, which comprises performing hydrogenation on the docosahexaenoic acid-containing fat and oil which is obtained by the production method according to claim 3, the docosahexaenoic acid-containing fat and oil according to claim 9, or the docosahexaenoic acid which is obtained by the method according to claim 15.

18. A method for producing photographic photosensitive materials, wherein silver behenate containing the behenic acid of claim 17 is used.